

CASSETTE CAR STEREO
WITH FM/AM ELECTRONIC TUNER

SUPER TUNER

OWNER'S MANUAL

Thank you for purchasing this PIONEER product. Before attempting operation, be sure to read this manual.

Nous vous remercions d'avoir acheté cet appareil PIONEER. Avant de l'utiliser, prendre soin de lire ce manuel.

Muchas gracias por la adquisición de este producto PIONEER. Antes de tratar de operarlo, lea atentamente este manual.

شكرا لك على شرائك جهاز پایونیر هذا. قبل محاولة تشغيله تأكد من قراءة هذا الدليل.



KEH-3550

PIONEER
The Art of Entertainment

تعليمات
الاستخدام

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Composition of manual

This manual applies to the KEH-3550, KEH-2550.
However, the illustrations show the KEH-3550. The KEH-2550 have following features which differ to the KEH-3550.

KEH-2550

Does not include Dolby B NR, tape selector and music search functions.

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Composition du manuel

Ce manuel s'applique aux KEH-3550, KEH-2550.
Toutefois, les illustrations montrent le KEH-3550. Les KEH-2550 présentent les différences suivantes par rapport au KEH-3550.

KEH-2550

Ne comporte pas le réducteur de bruit Dolby B, le sélecteur de bande et les fonctions de recherche de programmes.

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Composición del manual

Este manual es aplicable a los modelos KEH-3550, KEH-2550.
Sin embargo, las ilustraciones muestran el modelo KEH-3550. Los modelos KEH-2550 tienen las siguientes características que difieren del modelo KEH-3550.

KEH-2550

No incluye el sistema de reducción de ruido Dolby B NR, el selector de cinta y la función de búsqueda musical.

Precautions

- While driving keep your listening volume at a level which does not mask important outside traffic noises, such as emergency vehicles, etc.
- Never remove the top case of the unit to attempt check or repairs. If operation of the unit is abnormal, contact your dealer or the nearest Pioneer Service Station.
- If the car's battery is disconnected for any reason, the preset memory will be erased and must be reprogrammed after reconnection of the battery.

In case of trouble

When the unit does not operate properly, contact your dealer or the nearest authorized PIONEER Service Station.

Changing the Tuning Step

Parts Identification (Fig. 1)

- [2] Eject
- [4] Tuning
- [16] Power Switch

Changing the Tuning Step

The tuning steps of the AM band for this unit can be switched between 9 kHz and 10 kHz per step. The tuning step should be switched from 9 kHz (which is preset at the factory) to 10 kHz when this unit is used in North America, Central America, or South America.

1. Press the eject button [2] to eject the cassette, and then turn left the power switch [16] to turn off the power.
2. To change the AM tuning step, hold down the up (+) or down (-) tuning button [4] and at the same time turn the power switch [16] to turn the power on. It should be noted that changing the tuning step also deletes frequencies stored in the tuning memories.

Specification		Initial setting	New setting
AM	Tuning steps	9 kHz steps	10 kHz steps
	Frequency range	531 — 1,602 kHz	530 — 1,710 kHz

Connecting the Units

Note:

- This unit is for vehicles with a 12-volt battery and negative grounding. Before installing it in a recreational vehicle, truck, or bus, check the battery voltage.
- To avoid shorts in the electrical system, be sure to disconnect the battery \ominus cable before beginning installation.
- Refer to the owner's manual for details on connecting the various cords of the power amp and other units, then make connections correctly.
- Secure the wiring with cable clamps or adhesive tape. To protect the wiring, wrap adhesive tape around them where they lie against metal parts.
- Route and secure all wiring so it cannot touch any moving parts, such as the gear shift, handbrake, and seat rails. Do not route wiring in places that get hot, such as near the heater outlet. If the insulation of the wiring melts or gets torn, there is a danger of the wiring short-circuiting to the vehicle body.
- Do not shorten any leads. If you do, the protection circuit may fail to work when it should.
- Never feed power to other equipment by cutting the insulation of the power supply lead of the unit and tapping into the lead. The current capacity of the lead will be exceeded, causing over heating.

- Don't pass the orange lead through a hole into the engine compartment to connect to the battery. This will damage the lead insulation and cause a very dangerous short.
- Replace fuses only with the types stipulated on the fuse holder.
- Since a unique BPTL circuit is employed, never wire so the speaker leads are directly grounded or the left and right speaker \ominus leads are common.
- Speakers connected to this unit must be high-power types possessing minimum rating of 25W and impedance of 4 to 8 ohms. Connecting speakers with output and / or impedance values other than those noted here can damage the speakers.

(Fig. 4)

1. Antenna jack
2. Black (ground)
To vehicle (metal) body.
3. Red
To electric terminal controlled by ignition switch (12 V DC) ON / OFF.
4. Orange
To terminal always supplied with power regardless of ignition switch position.
5. Fuse resistor
6. Fuse holder
7. Green
8. Gray
9. Green / black
10. Gray / black
11. Green / red
12. Gray / red
13. Front / left speaker
14. Front / right speaker
15. Rear / left speaker
16. Rear / right speaker
17. With a 2 speaker system, connect to the 2 speakers in the front or the rear.
18. Blue

KEH-2550

Auto-antenna relay control terminal (Max. 300 mA 12 V DC).

KEH-3550

To system control terminal of the power amp or Auto-antenna relay control terminal (Max. 300 mA 12 V DC).

KEH-3550

19. Rear out
20. Red
21. White
22. Connecting cords with RCA pin plugs (sold separately)
23. Blue
24. Power amp (sold separately)
25. Use this for connections when you have the separately available amplifier.

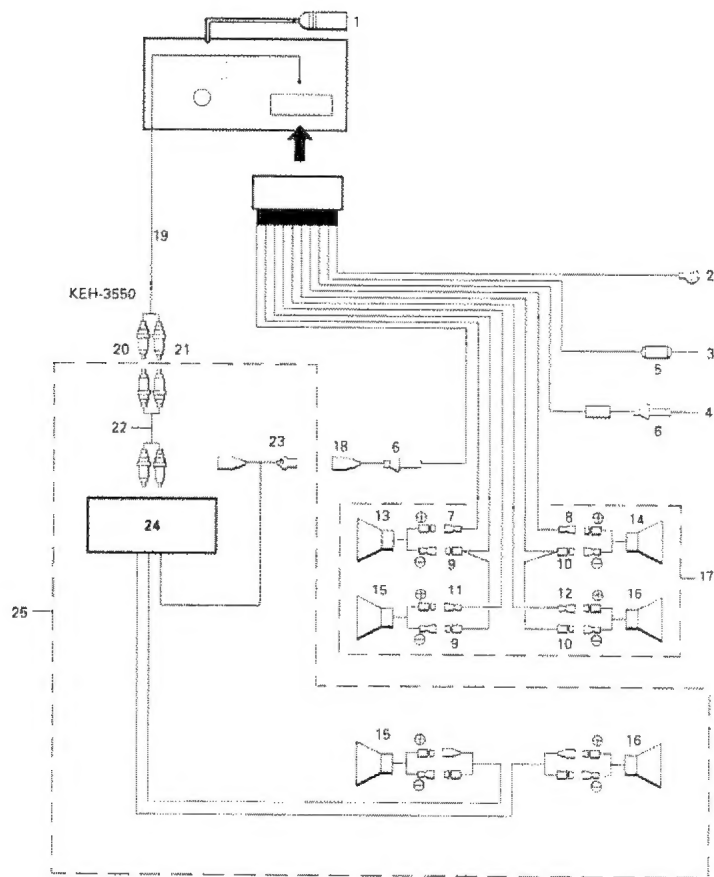


Fig. 4

Installation

Note:

- Consult with your nearest dealer if installation requires the drilling of holes or other modifications of the vehicle.
- Before finally installing the unit, connect the wiring temporarily and make sure it is all corrected up properly and the unit and the system work properly.
- Use only the parts included with the unit to ensure proper installation. The use of unauthorized parts can cause malfunctions.
- Install the unit where it does not get in the driver's way and cannot injure the passenger if there is a sudden stop, like an emergency stop.
- If installation angle exceeds 30° from horizontal, the unit might not give its optimum performance. (Fig. 5)

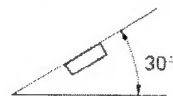


Fig. 5

DIN Front / Rear-mount:

This unit can be properly installed either from "Front" (conventional DIN Front-mount) or "Rear" (DIN Rear-mount installation, utilizing thread screw holes at the sides of unit chassis). For details, refer to the following illustrated installation methods.

Installation with the rubber bush (DIN Front-mount) (Fig. 6)

Installation without the rubber bush (DIN Front-mount) (Fig. 7)

1. Dashboard
2. Holder
After inserting the holder into the dashboard, select the appropriate tabs according to the thickness of the dashboard material and bend them inwards to secure the holder in place.
3. Rubber bush
4. Screw
5. Nut (5 mm)
6. Drill a 5.5 — 6.0 mm diameter hole.
7. Screw (5 x 16 mm)
8. Strap

Be sure to use the strap to secure the back of the unit in place. The strap can be bend by hand to the desired angle.

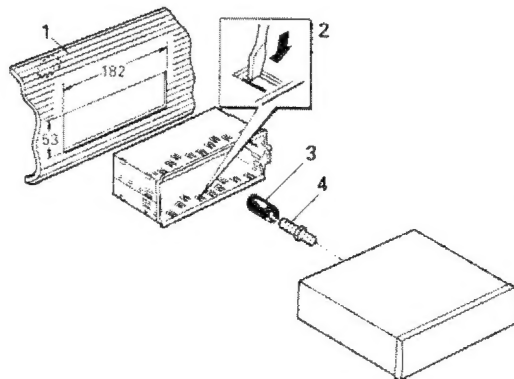


Fig. 6

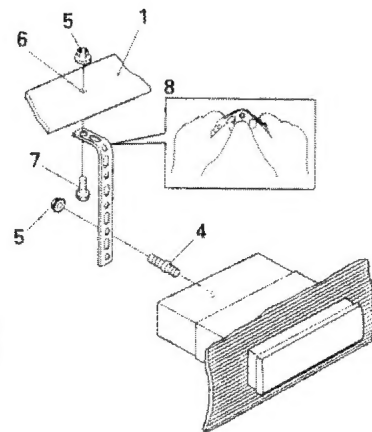


Fig. 7

Installation using the screw holes on the sides of the unit (DIN Rear-mount)

1. Remove the frame.

Insert the release pin into the hole in the bottom of the frame and pull out to remove the frame. (Fig. 8)

2. Fastening the unit to the factory radio mounting bracket.

Align the screw holes in the brackets with those in the main unit, and drive in two screws on each side. Use either bind screws (5 × 8 mm) or flush screws (5 × 8 mm), depending on the shape of the screw holes in the bracket. (Fig. 9, 10)

1. Release pin
2. Screw (5 × 8 mm)
3. Dashboard or console
4. Factory radio mounting bracket

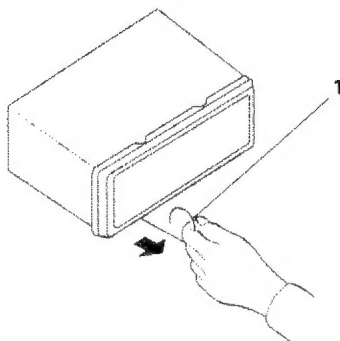


Fig. 8

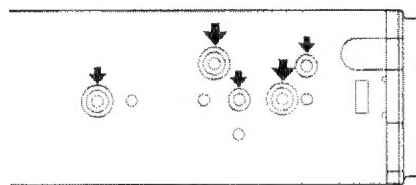


Fig. 9

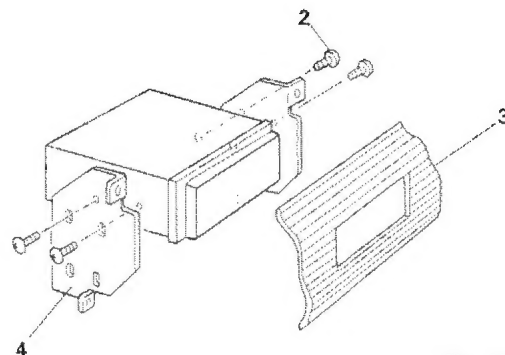


Fig. 10

Removing the unit (DIN Front-mount) (Fig. 11, 12)

Remove the frame.

Insert the release pin into the hole in the bottom of the frame and pull out to remove the frame. (Fig. 11)

Note:

When installing the frame, the groove must face downwards.

1. Release pin
2. Insert till the tab of the lever catches onto the metal fixture of the unit.
(Point the tab of the lever upward.)
The unit can be released from the dashboard by pulling the lever.
3. After removing the unit, pull out the lever, following step ①, ② shown above.
4. Tab

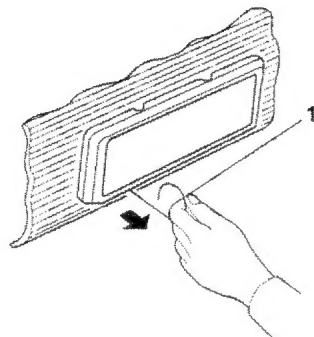


Fig. 11

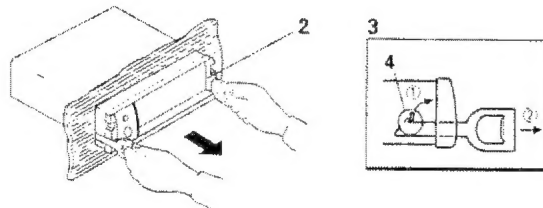


Fig. 12

Using the Removable Front Panel

The front panel of this unit can be removed to prevent theft.

Parts Identification (Fig. 1)

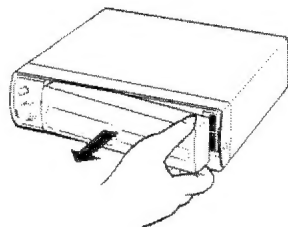
[2] Eject

[6] Fast Forward, Rewind / Direction Change

[9] Detach button

Detaching the Front Panel

1. Press button [9], and the right-hand side of the panel will eject.
2. To remove the front panel, pull its right-hand side toward you.



- Take care not to put pressure on the display or drop the front panel.

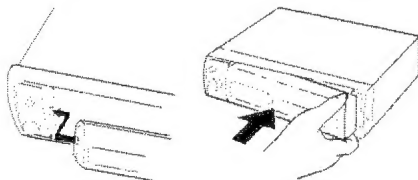
Optional Protective Case

A separately sold protective case is available for the detached front panel. This case is highly recommended to protect the front panel from shocks and scratches.

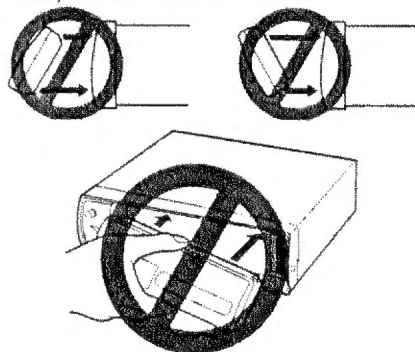
Replacing the Front Panel

With a hollow in the left-hand end of the front panel aligned to projections on the left-hand front wall of the equipment, press the panel's right-hand side against the equipment to put it into place.

- When replacing the front panel, do not put pressure on the display or control buttons.



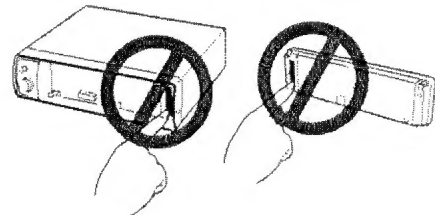
- Install the front panel holding it parallel to the main unit. Installing the panel tilted, as shown in the illustrations below, may cause the hook on the front panel to destroy the main unit's electrodes.



- Do not install the front panel while holding down buttons [2], [6] and [9] in Fig. 1. Doing so may destroy the buttons and the main unit.
- Note that if the front panel is not attached correctly, pushing button [9] may not release the panel, and the other control buttons may not function.

Precautions

- Do not touch the contacts on the front panel or on the unit body, since this may result in poor electrical contact. If dirt or other foreign substances get on the contacts, wipe them with a clean, dry cloth.



Precautions When Handling the Front Panel

- Do not leave the front panel in any area exposed to high temperatures or direct sunlight.
- Do not drop the front panel or otherwise subject it to strong impact.
- Do not allow such volatile agents as benzene, thinner, or insecticides to come into contact with the surface of the front panel.
- Never try to disassemble the front panel.

Using the Radio

Parts Identification (Fig. 1)

- [1] Bass / Treble
- [4] Tuning
- [5] Band / Loudness (KEH-3550)
- [5] Band (KEH-2550)
- [7] Local Station
- [10] Best Stations Memory (BSM) / Preset Scan
- [14] Preset
- [15] Display
- [16] Volume / Balance / Power Switch
- [17] Fader

(Fig. 2)

- [18] Loudness (KEH-3550)
- [19] Local Station
- [20] Seek
- [21] Preset Number
- [22] Frequency
- [23] Band
- [24] Stereo

Listening to the Radio

• Before attempting operation...

- Set the fader control [17] to the left horizontal.
- 1. Turning the power switch [16] to the right causes power to switch ON and the current frequency to appear on the display [22].

- Since the set is designed preferentially for tape play, eject a cassette tape, if mounted, before operating the radio.
- 2. Press the button [5] to select the band.
- 3. Press both ends of the button [4] and the seek tuning indicator will appear on the display [20].
- 4. Press either the left or right side of the button [4] to tune in the desired frequency. (Pressing the right side will increase the frequency.)
- 5. Adjust the volume and balance. To adjust the balance, first pull the knob [16] until a click is heard. After setting to the desired level, push the knob [16] in again to its original position.
- 6. Adjust the tone [1]. To adjust the treble, first pull the knob [1] until a click is heard. After setting to the desired level, push the knob [1] in again to its original position.
- **To enter a frequency into the preset memory...**
- 7. Hold down one of the buttons in Bank [14] for approximately 2 seconds. The frequency is stored in memory (assigned to the button in Bank [14] pressed) once the preset number stops flashing on the display [21].
6 FM1 frequencies, 6 FM2 frequencies, 6 FM3 frequencies and 6 AM frequencies can be entered.

BSM (Best Stations Memory)

This function automatically locates stronger stations and automatically assigns their frequencies to the buttons in Bank [14], from strongest to weakest. It comes in handy when trying to find local stations while driving.

1. Press button [5] and select a band.
 2. Holding down button [10] for about 2 seconds will start BSM search. At this time, "..." will flash on the display.
 3. The frequency display will return once BSM search is complete, and frequencies are assigned to buttons 1 through 6 in Bank [14].
- At the end of the BSM search, the displayed frequency is that assigned to button 1 of Bank [14].
 - If there are fewer than 6 strong stations in the area, some of the buttons in Bank [14] will not be assigned frequencies, so they will retain any frequencies assigned to them previously.
 - BSM search may take as long as 30 seconds in areas where there are few strong stations.
 - You can cancel BSM search by pressing button [10] again.

Fader Control

This control is used to adjust the balance between the front and rear speakers when using a 4-speaker system. Turning the control [17] to the upward decreases the volume of the rear speakers, while turning it to the downward decreases the volume of the front speakers with 2-speaker systems, set this control [17] to a horizontal.

Loudness Control (KEH-3550)

When playing back a tape or listening to the radio at low volume, the low tone is emphasized and more clearly heard by pressing 2 seconds this switch [5].

Auto-Loudness (KEH-2550)

When playing back a tape or listening to the radio at low volume, the low tone is automatically emphasized.

Preset Scan Tuning

This function lets you automatically monitor the stations assigned to the preset buttons.

1. Press the button [10], and the preset number [21] flash.
Each station assigned to the buttons in Bank [14] will be automatically tuned in for about 8 seconds.
2. When you hear a station that you like, press button [10] again to cancel preset scan tuning and remain at that station.

Adjusting Seek Sensitivity

The seek tuning function of this tuner lets you select between a local setting for reception of strong stations only, and a DX (distant) setting for reception of weaker stations. The local setting also has four seek tuning sensitivity levels for FM and 2 levels for AM to match local conditions.

Changing the Local Seek Sensitivity

1. Use button [5] to select a band.
2. Hold down the button [7] for more than 2 seconds, and the display will show you the current local seek sensitivity for about 5 seconds.
3. While the local seek sensitivity remains on the display, press the (+) side of button [4] to increase the sensitivity level, and the (-) side to decrease the level as shown below.
FM : L-1 \Rightarrow L-2 \Rightarrow L-3 \Rightarrow L-4
AM : L-1 \Rightarrow L-2

The L-4 setting allows reception of only the strongest stations, while lower settings let you receive progressively weaker stations.

- The display of local seek sensitivity returns to the frequency when about 5 seconds have elapsed after the change of sensitivity.

Switching between Local and DX

Press button [7] to switch between Local and DX (distant) seek tuning. When "LOC" [19] is shown on the display, seek tuning is performed with the local seek sensitivity. Otherwise, seek tuning is performed with the DX seek sensitivity.

Manual Tuning

Use manual tuning when stations are too weak to be picked up by seek tuning.

1. Press both (+) and (-) sides of button [4] at the same time to clear "SEEK" [20].
 2. Each press of the (+) side of button [4] increases the frequency in 50 kHz steps in the FM band, 9 kHz in the AM band. Pressing the (-) side of button [4] decreases the frequency. Holding down either side of button [4] changes the frequency at high speed.
- AM frequencies are turned in 10 kHz steps after the tuning steps are changed.

Using the Tape Deck

Parts Identification

(Fig. 1)

- [1] Bass / Treble
- [2] Eject
- [3] Cassette Door
- [5] Loudness
- [6] Fast Forward, Rewind / Direction Change
- [11] Music Search (KEH-3550)
- [12] Tape Select (KEH-3550)
- [13] Dolby B NR (KEH-3550)
- [15] Display
- [16] Volume / Balance / Power Switch
- [17] Fader

(Fig. 3)

- [18] Loudness (KEH-3550)
- [25] Music Search (KEH-3550)
- [26] Direction
- [27] Dolby B NR (KEH-3550)
- [28] Metal (KEH-3550)

About cassette tapes

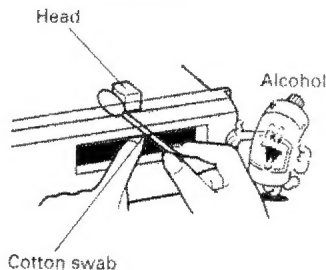
- Do not use tapes longer than C-90-type (90 min.) cassettes. Longer tapes can interfere with tape transport.
- Storing cassettes in areas directly exposed to sunlight or high temperatures can distort them and subsequently interfere with tape transport.



- Store unused tapes in a tape case where there is no danger of them becoming loose or being exposed to dust.

Cleaning the head

If the playback head becomes dirty, sound quality will suffer. Periodically (once or twice a month) clean the head with a cotton swab soaked with alcohol.



Listening to a tape

- Before attempting operation...
 - Set the fader control [17] to the left horizontal.
1. Turning the power switch [16] to the right causes power to switch ON.
 2. Loading a cassette tape into the load slot [3] causes playback to begin automatically.
 3. Adjust the volume and balance. To adjust the balance, first pull the knob [16] until a click is heard. After setting to the desired level, push the knob in [16] again to its original position.
 4. Adjust the tone [1]. To adjust the treble, first pull the knob [1] until a click is heard. After setting to the desired level, push the knob [1] in again to its original position.
 5. When tape playback reaches the end of the tape, playback will automatically switch from the side being played to the opposite side (ie. Side A to Side B or vice versa) (Auto-reverse). To eject the tape during playback, press the button [2].
- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.
 - Do not try to eject the cassette immediately after insertion, as it will cause malfunction. Wait a few seconds.
 - Loose tapes should be rewound with the aid of a pencil and unevenly wound tapes rewound with the use of the fast forward function.

- *Be sure to eject the tape when the vehicle's ignition is turned OFF. Leaving the tape in the unit can deform the pinch roller causing wow and flutter during tape playback.*

Changing Program

Push the fast forward and rewind buttons [6] together to switch from one side of the tape to the other (from Side A to Side B or vice versa).

Using Fast Forward and Rewind

Since the transport can be in either direction, both the left and right high-speed tape transport buttons [6] can be regarded as fast forward / rewind buttons. For fast forward, press the high-speed tape transport button [6] that corresponds to the direction that is shown by the direction indicator [26]. When the end of the tape is reached, playback will automatically begin from the opposite side of the tape (Auto-reverse). For rewind, press the button [6] that is opposite that of the direction shown by the direction indicator [26]. When the end of the tape is reached, playback will automatically begin from the beginning of the same side of the tape (Auto-replay).

When you release fast forward / rewind, lightly press button [6] located on the opposite side of the one you pressed to fast forward or rewind.

Using Music Search (KEH-3550)

Returning to the beginning of selection A

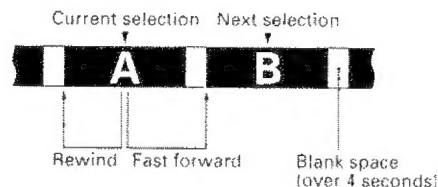
Press the button [11] ("MS" [25] appears) and then the high-speed tape transport button [6] for the direction opposite that is shown by the direction indicator [26]. Playback will automatically start from the beginning of selection A.

Moving from selection A to selection B

Press the button [11] ("MS" [25] appears) and then the high-speed tape transport button [6] that corresponds to the direction shown by the direction indicator [26]. Playback will automatically start from the beginning of selection B.


To enable regular fast forward / rewind operations, press the button [11] again ("MS" [25] turns off) to turn the function OFF. The following errors will cause the music search function to operate improperly, even though the unit is not malfunctioning.

- Unrecorded "blank" portions between selections less than 4 seconds — the blank portion cannot be detected by the unit.
- Pauses in recorded conversations longer than 4 seconds — the unit reads these as blanks between selections.
- Portions recorded at very low volume for more than 4 seconds — the unit reads these as blanks between selections.



Dolby B NR (KEH-3550)

To hear a tape recorded using a Dolby NR system, press the button [13]. ("D" [27] appears.)

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

Tape Selector (KEH-3550)

When using metal tapes and chrome tapes, press button [12]. ("MTL" [28] appears.)

Using the Clock Display

Parts Identification (Fig. 1)

[8] Clock

[14] Hour Adjustment / Minute Adjustment

[15] Display

Display the Time

The clock is displayed while button [8] is depressed. Press button [8] again to turn off the clock display.

- The clock display can be used only when the main unit is in operation.
- When the clock display is ON, pressing other buttons will release the clock display. The display will be restored approximately 25 seconds after the button operation has been completed.

Adjusting the Time

Adjusting Hours

While holding down button [8], Press button 1 from the buttons shown on [14], to adjust the hour setting of the clock. Each press button 1, advances the hour setting by one hour, and holding it down advances the setting at high speed.

Adjusting the Minutes

While holding down button [8], Press button 2 from the buttons shown on [14], to adjust the minute setting of the clock. Each press button 2, advances the minute setting by one minute, and holding it down advances the setting at high speed.

Specifications

General

Power source	14.4 V DC (10.8 — 15.6 V allowable)
Grounding system	Negative type
Max. current consumption	5.6 A
Dimensions (chassis)	178(W) × 50(H) × 155(D) mm
(nose)	170(W) × 48(H) × 12.4(D) mm
Weight	1.4 kg

Amplifier

Continuous power output is 10 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.	
Maximum power output	25 W × 2/15 W × 4 (EIAJ)
Continuous power output	11 W × 2 (1% dist. at 1 kHz)
Load impedance	4Ω (4 — 8Ω allowable)
Preout output level / output impedance (KEH-3550)	500 mV/1 kΩ
Tone controls (bass)	±10 dB (100 Hz)
(treble)	±10 dB (10 kHz)
Loudness contour	+8 dB (100 Hz) (Volume: -30 dB)

Tape player

Tape	Compact cassette tape (C-30 — C-90)
Tape speed	4.8 cm/sec.
Fast forward / rewind time	Approx. 100 sec. for C-60
Wow & flutter	0.13% (WRMS)
Frequency response (KEH-3550)	Metal: 40 — 17,000 Hz (±3 dB)
(KEH-2550)	40 — 14,000 Hz (±3 dB)
Stereo separation	45 dB
Signal-to-noise ratio (KEH-3550)	Metal: Dolby B NR IN: 63 dB (IEC-A network)
	Dolby NR OUT: 55 dB (IEC-A network)
(KEH-2550)	52 dB (IEC-A network)

FM tuner

Frequency range	87.5 — 108 MHz
Usable sensitivity	11 dBf (1.0μV/75Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	16 dBf (1.7μV/75Ω, mono)
Signal-to-noise-ratio	70 dB (IEC-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	30 — 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

AM tuner

Frequency range	531 — 1,602 kHz (9 kHz)
	530 — 1,710 kHz (10 kHz)
Usable sensitivity	18μV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)
	50 dB (±10 kHz)

Note:

Specifications and the design are subject to possible modifications without notice due to improvements.